

The role of financial indicators in enhancing Human Development: A case study of Gulf Countries

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Abstract: A well-developed financial system promotes the effective sharing of saving by supporting access to financial institutions and lowering transaction costs. It also monitors transactions through the regulatory organizations, promotes an efficient market by exchanging services, goods, technology, and knowledge, as well as reduces uncertainty through efficient risk management methods. The present study examines the impact of financial indicators related to the banking sector on the Human Development Index (HDI). A GMM approach is applied by using the data from 1996 to 2018. Gulf countries are taken as a case study. The results show that bank credits to bank deposits, credit to private sector and banking concentration have a positive relationship with the HDI. However, the bank cost to income ratios shows a negative relationship with the HDI. This indicates that the higher bank operating expenses in Gulf countries were negatively related to human development. The bank net interest margin and credit to government sectors show a negative relationship with HDI. Thus, it is recommended to decrease the operating expenses, minimize the credit ratio to government sector and increase the share of private sector to enhance HDI.

Keywords: Financial Development, Financial Indicator, Banking sector, HDI, GMM, Efficient Markets

I. Introduction

The financial sector is defined by the World Bank (2012) as the legal system, regulatory markets, institutes, and instruments that allow transactions by credit extension. The main objective of the financial sector's development is to reduce the costs that exist in any financial system, such as the costs of contract enforcement and acquisition. Thus, the financial markets, contracts and intermediaries have existed.

Furthermore, many scholars have asserted that the development of the financial systems plays a major role in economic growth (Khan et al., 2020; Ibrahim (2018), Shahid et al. (2015); Eita and Jordaan, 2010; Rousseau and Sylla, 2005; Levine, 1997; 2005,). However, it is claimed that some government interventions could restrict the financial system development, hence, growth (Boyreau-Debray, 2003). A well-developed financial system promotes the effective sharing of saving by supporting access to financial institutions and lowering transaction costs. It also monitors transactions through the regulatory organizations, promotes efficient market by exchanging services, goods, technology, and knowledge, as well as reduces uncertainty through efficient risk management methods (Levine, 1997). According to Montiel (2011), the financial system can accelerate growth when money is assigned to productive activities. The cost of resources used in investment and saving is reduced, hence improving human and physical capital.

Besides the development of the financial system, the role of human capital is crucial for economic growth, as proved by Romer (1986), Barro and Lee (1996), Lucas (1988), and Hakeem (2010). Human capital has been expressed differently in several studies. Human capital was included as education, health, training and knowledge, and other factors that enhance labor productivity to contribute to growth. A study was conducted by Munir and Arshad (2018) in Pakistan found that human capital accumulation improves employment level, per capita income, and labor productivity, which leads to growth. Another study by Blundell et al., (1999) showed that human capital innovation and accumulation affect growth through productivity. Moreover, human capital contributes to growth in the long term even in the shortage of technological advancements (Barro and Sala-i-Martin, 1999). It is found that both stocks of education and

health have a positive association with growth in East Asia Li and Liang (2010). Health showed a positive effect on growth as healthy workers can increase labor productivity, hence growth (Rosendo Silva et al. (2018).

It is highlighted that financial development and human capital are significant factors in Myanmar's economic growth (Thunt and Jung, 2018). Also, financial development, human capital, and economic growth have a positive relationship, and an important role in reducing poverty in the different Indian States (Arora and Jalilian, 2020).

Earlier studies have examined the interactive term of financial development and human capital on economic growth. Ibrahim (2018) and Hakeem (2010) have conducted a study in Sub-Saharan Africa, while Kendall (2012) in India's sub-national economy. Ibrahim (2018) has examined the combined effect of financial development and human capital and found that it boosts economic growth in both the short and long-term. Also, he suggested that financial development stimulates growth with high quality of human capital as it leads to the implementation of new technologies and innovation. Demirgüç-Kunt and Maksimovic (2005) claim that financial development and human capital allow the entrepreneurs to participate in creative activities that enhance productivity, hence promote growth. Also, they highlighted the important role of human capital and financial environment in mitigating the impact of external shocks on the domestic economies.

Another study has shown that people with higher education are high savers, less risk-averse, and have high knowledge. Improving education and training enables individuals to gain access to formal financial services and presents new opportunities for people empowerment. Likewise, financial development through credit channels supports the accumulation of human capital, hence growth. Then, the consequence is realized in both ways (Sarwar et al, 2021). Evans et al. (2002) find that this interaction term has a positive and significant impact on growth, which indicates that both factors are crucial to growth. Such relationships present the theoretical basis for this study.

As per Sarwar et al., (2021) that the supply of human capital stock is different in each country, hence, the effect of financial development may vary. If the country shows a higher quality of human capital stock, it will benefit more from the financial system development as many doctors, scientists, and accountants are able to innovate, choose opportunities professionally and use resources efficiently. Concluding that human capital and financial system are necessary elements to promote economic growth.

Although the interactive impact of financial development and human capital on growth was recognized in the theoretical literature, the impact of financial development on human capital remains less considered at the recent empirical level. One recent study was conducted by Ali et al., (2021) revealed that financial development indicators, such as private sector credit and broad money supply have a positive effect on human capital, but bank credit has a negative effect on human capital. Another empirical investigation was done by Sehrawat and Giri (2017) about the impact of financial development indicators on the development of human capital in different Asian countries. It found a long-run relationship between them, and that financial development and economic growth improve human capital. Also, the results of Akhmat et al. (2014) reveal the positive effect of financial development on human capital in selected South Asian countries. Regarding Honohan (2008) that in low-income countries, a deeper financial system improves human capital and reduces poverty. Further, Diamond and Dybvig (1983) argued that a deep-rooted financial structure is a fundamental element of human capital development. Sehrawat and Giri (2014) have recommended that to achieve sustainable human capital, it is necessary to reform the financial market. However, Nik et al. (2013) argue that human capital and cash flows have a negative association in Iran, then they recommend that the level of human capital could be decreased when the allocation of financial resources is inadequate.

The above-mentioned discussion, as well as the claim that more empirical evidence is required on financial development and human capital by Sehrawat and Giri (2017), propose that there is a pressing need to examine the impact of financial indicators on human capital. Accordingly, the study extends the existing literature in different ways: first, to the best of our knowledge, this study serves as one of few empirical works that have attempted to address the impact of financial development on human capital. Second, this study identifies a gap in the literature in relation to selecting resource-rich countries that are located in the Gulf region namely Gulf Countries (GC) as a study sample, as previous studies have focused mostly on a panel of countries or country-specific. Third, the human capital is selected as the dependent variable on this study since it is recognized that the economy's growth rate is largely determined by the ability to deliver human capital (Young, 1995) and that human capital is important for policymakers as any distress to human capital

development can harm growth (Neeliah and Seetana, 2016). Finally, this study employed the Generalized Method of Moments (GMM) for estimating the impact of financial indicators on human capital.

Therefore, this study is crucial for policymakers in GC to acknowledge the role of the financial system and to comprehend its impact on human capital, to reach future growth.

II. Methodology

In this study, to estimate the impact of specific financial indicators that relate to banking on Human Development Index, the Generalized Method of Moments (GMM) is used. The study regression model is

$$HDI = \beta_0 + BC + BR + BD + BG + BN + CG + DPM + DCP \dots \dots \dots (i)$$

Where, HDI is human development index taken as a dependent variable. The variable BC represents the banking concentration shows the assets of largest commercial banks whereas variable BD represents the bank credit to bank deposits (%). The BD shows the money provided to the private sector. The variable BR represents the Bank Cost to Income Ratio (%) that measures the operating expenses of a bank while the variable BN represents the bank net interest margin. The BN shows the sum of interest revenue and operating income. The variable BG represents the Bank Deposits to GDP (%) that shows the total value of time and saving deposits as a share of GDP. The variable CG represents the credit to government and state-owned enterprises to GDP (%). It shows the ratio of credit given by the domestic banks to government and state enterprises. The variable DPM represents the Deposit money banks assets to GDP (%). It shows the total assets in banks as share of GDP. The variable DCP represents the domestic credit to private sector as percentage of GDP.

The balanced panel data has been used for estimating the impact of financial indicators on Human Development Index. The GMM technique has proved to be a better technique when dealing with panel data (Ullah et al., 2018). The GMM is one of the most widely used methods for estimation in economics. Data set is ranged from 2000 to 2018 of 5 Gulf countries. The Human Development Index (HDI) has proved to be an important tool for comparing development across countries.

2.1. Data and Variable Description

The five Gulf countries that are included in this study are Qatar, Kuwait, Oman, United Arab Emirate (UAE) and Saudi Arabia (SA). The dependent variable is the HDI established by the United Nation Development Programme (UNDP). The data on financial variables has been collected from the World Development Indicators (WDI). The banking financial indicators are Bank Concentration (%), Bank Credits to Bank Deposits (%), Bank deposits to GDP (%), Bank Cost to Income Ratio (%), Bank Net Interest Margin (%), Credit to government and state owned enterprises to GDP (%), Deposit money bank assets to GDP (%), Domestic credit to private sector (% of GDP).

Variable	Mean	Std. Dev.	Min	Max
hdi	.81	.038	.693	.89
bankconcentration	74.739	14.759	44.087	100
bankcredittobankde~s	100.22	28.453	48.757	192.916
bankdepositstogdp	55.625	21.774	16.138	110.003
bankcosttoincomera~o	35.492	7.227	21.408	55.584
banknetinterestmar~n	2.879	.571	1.576	4.558
credittogovernment~e	17.387	13.779	2.693	72.257
depositmoneybanksa~p	74.141	31.864	33.696	232.2
domesticcredittopr~g	57.708	21.847	24.236	136.996

The descriptive statistics in the table above shows the mean, minimum, maximum, and the standard deviation values of the proposed variables in the study. The bank concentration, credit to bank, bank deposits to GDP, deposit money banks

and domestic credit to private banks show a greater mean values of 74.7, 100, 55.6, 74.1, and 57.7 respectively while bank cost to income, bank net interest and credit to govt show smaller mean values of 35.4, 2.8, and 17.3 respectively.

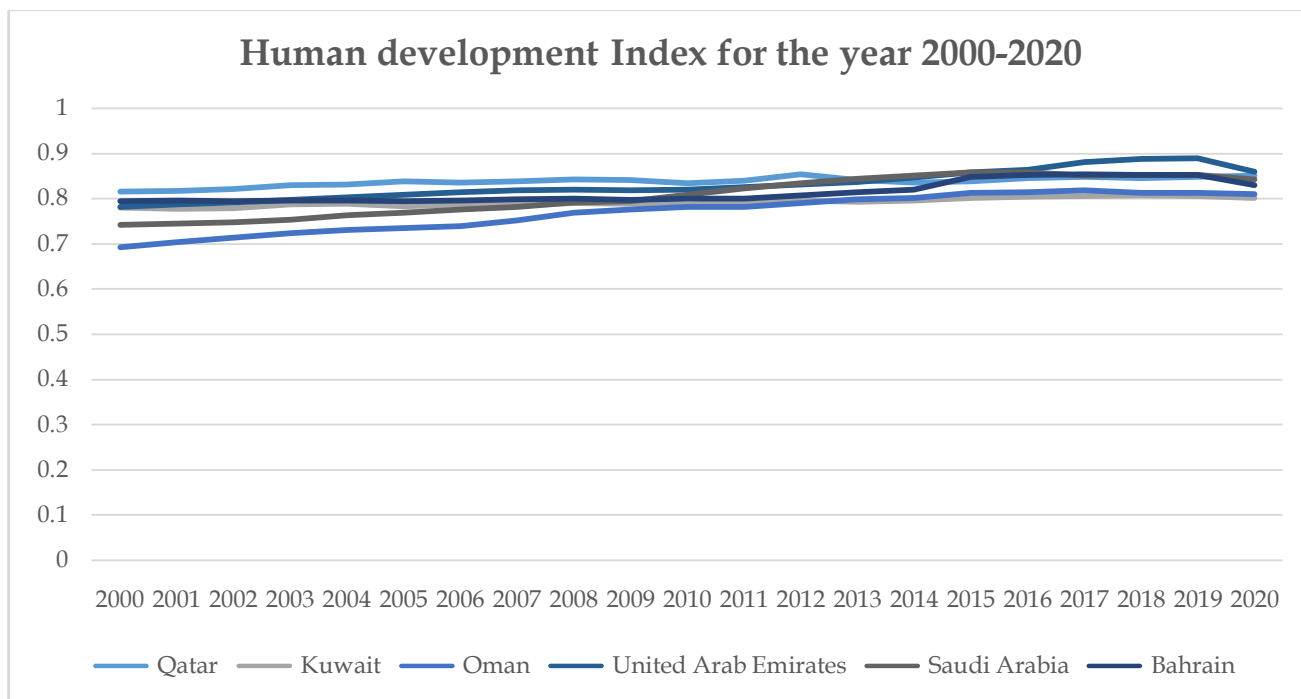


Figure 1: Human Index for Gulf countries for the year 2000-2020

The table above shows the trend in HDI index for the proposed countries in the study for the years 2000-2020. The table used the latest revised historical data by UNDP in 2021. The HDI components such as health, education, longevity, and income per capita have appeared to be improving overtime in these nations. The decrease in child mortality and fertility has improved the family structures in most of these countries. The HDI for Qatar has dropped from 0.85 in 2012 to 0.83 in 2013, despite the important developments in health, education, and income. While the HDI has shown an improvement in the other GC during 2000-2020. In the period from 2015 to 2019, UAE showed a boom in its HDI but this index declined from 0.89 to 0.86 in post-pandemic period.

III. Results and Discussion

This study has investigated the different financial banking indicators to examine their impact on Human Development Index. The bank credits to bank deposits show a positive relationship with the HDI. One percent increase in bank credits to bank deposits ratio shows an increase of 0.05 in HDI. These findings are consistent with Sehrawat and Giri (2014) who confirm the long run relationship between HDI and banking financial indicators. However, the bank cost to income ratio shows a negative relationship with the HDI. Hence, the higher bank operating expenses are negatively related to HDI in GC. Similarly, Farooq et al., (2019) find that bank cost is increasing due to non-performing loans in GC.

The banking concentration shows a positive relationship with the HDI. One percent increase in banking concentration has led to increase of 0.11 in HDI. According to Al-Khoury and Arouri (2019) that the higher banking concentration has increased liquidity in Gulf Countries. The bank net interest margin shows a negative relationship with the HDI. One percent increase in net interest margin decreases the HDI by 0.04 percent. The credit to government sector shows a negative relationship with the HDI. One percent increase in credit to government sector would decrease the HDI by 0.04 percent. Aziz and Knutsen (2019) assert that the freedom of banks supports a better business environment. The domestic credit to private sector shows a positive relationship with the HDI. One percent increase in domestic credit to private sector would increase the HDI by 0.09 percent.

Dependent Variable : Log (HDI)				
Method : Panel Generalized Method of Moments				
Total Panel (balanced) Observations: 234				
Variable	Coefficient	Std. Error	t-Statistic	Prob
C	-0.745389	0.107314	-6.945902	0
LOG(BANK_CONCENTRATION___)	0.119071	0.024288	4.902446	0
LOG(BANK_COST_TO_INCOME_RATI)	-0.059453	0.004928	-12.06552	0
LOG(BANK_CREDIT_TO_BANK_DEPO)	0.059221	0.00635	9.326792	0
LOG(BANK_DEPOSITS_TO_GDP___)	0.019021	0.006032	3.153614	0.0018
LOG(BANK_NET_INTEREST_MARGIN)	-0.047595	0.005328	-8.932459	0
LOG(CREDIT_TO_GOVERNMENT_AND)	-0.047414	0.004018	-11.79964	0
LOG(DEPOSIT_MONEY_BANKS___AS)	0.113741	0.010209	11.14093	0
LOG(DOMESTIC_CREDIT_TO_PRIVA)	0.099401	0.0086	11.55866	0
Total Panel (balanced) Observations: 234				
R-Squared: 0.855588				
J-statistic: 0.0000000059				

IV. Conclusion

Human capital has been the subject of both theoretical and applied study over the past three decades. Since the pace of human capital growth has remained modest in GC, causing GC to be less efficient in terms of accelerating its economy as compared to other emerging nations that value human capital as a fundamental source of development. A well-developed financial system promotes the effective sharing of savings by supporting access to financial institutions, and lowering transaction costs. It also monitors transactions through the regulatory organizations, promotes an efficient market by exchanging services, goods, technology, and knowledge, hence promoting human capital.

The present study examines the impact of financial indicators related to banking on HDI. A GMM approach is applied by using the data from 1996 to 2018. Gulf countries are selected as a case study. The results indicate that bank credits to bank deposits, credit to private sector and banking concentration show positive relationship with the HDI. However, the bank cost to income ratio shows a negative relationship with the HDI in GC. The bank net interest margin and credit to government sectors show negative relationship with HDI.

Our findings suggest some policy implications for further human capital development that are both relevant and helpful. Gulf nations' policymakers should divert credit and financial resources to improve human skills, such as training, education, research, worker-knowledge, and elementary education programmes. Partnerships between public and commercial entities have the potential to improve human capital initiatives. Similarly, the financial sector's stability supports the development of human capital. GC are subjected to insufficient financial policies, which jeopardises the possibility for a favourable interaction between human capital and economic growth. As a result, authorities must devise a strategy that ensures sufficient money to be allocated to develop the human capital.

Furthermore, a solid plan or strategy should be implemented to reduce the negative effects of bank lending in the long run. This could be accomplished by improving the banking system, reducing non-performing loans and implementing effective credit guarantee rules.

In addition, a favourable economic climate for the private sector is a necessary condition for human capital development. Under sustainable economic policies, more productive industrial sectors and services are needed. Another relevant policy outcome is that governments should prioritise the monetary and fiscal policy or growth-related initiatives to acquire long-term human capital advantages. A greater attention is required to develop the financial industry to maintain the stability for human financial indicators, economic growth, and capital, thus contributing to a robust economic system.

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